What is claimed is:

1   1.   A projector capable of detecting remaining
2   lifetime of the light source lamp therein, comprising:
3   an image projection device having a light source
4   lamp with a pair of lamp electrodes;
5   a detection device for detecting a voltage across
6   the lamp electrodes;
7   an analog-to-digital converter for converting the
8   voltage to a digital value; and
9   a control unit for comparing the digital value with
10   a relational table to calculate the remaining
11   lifetime of the lamp.

1   2.   The projector as claimed in claim 1, further
2   comprising a timer for accumulating the time used of the
3   lamp, and the control unit comparing the digital value
4   with the relational table when the time used of the lamp
5   exceeds a first predetermined time.

1   3.   The projector as claimed in claim 1, further
2   comprising a memory unit for storing the relational
3   table.

1   4.   The projector as claimed in claim 1, wherein
2   the control unit further outputs a warning signal when
3   the lifetime of the lamp is less than a predetermined
4   time.

1   5.   The projector as claimed in claim 1, wherein
2   the relational table reflects the relationship between

3   the remaining lifetime and the voltage across the lamp

4   electrodes of the lamp.

1   6.   The projector as claimed in claim 1, wherein,

2   in the lamp, the voltage across the lamp electrodes

3   increases as time used of the lamp increases.

1   7.   A method of detecting the remaining lifetime of

2   a light source lamp, comprising

3   measuring a voltage across the lamp electrodes of

4   the light source lamp;

5   converting the voltage to a digital value; and

6   comparing the digital value with a relational table

7   to calculate the remaining lifetime of the

8   lamp.

1   8.   The method as claimed in claim 7, further

2   comprising a step of detecting the time used of the lamp.

1   9.   The method as claimed in claim 7, further

2   comprising a step of displaying the remaining lifetime of

3   the lamp.

1   10.   The method as claimed in claim 7, further

2   comprising a step of outputting a warning signal when the

3   remaining lifetime is less than a predetermined time.

1   11.   The method as claimed in claim 7, wherein the

2   relational table reflects the relationship between the

3   remaining lifetime and the voltages across the lamp

4   electrodes of the lamp.